I CLAIM:

1. In a series of successively sized segmented pipe couplings, each coupling adapted to securably connect the similarly configured and sized pipe ends of juxtaposed pipes;

each one of said series of segmented pipe couplings comprising at least two arcuate coupling segments to be assembled in arcuate end-to-end relationship for encircling the juxtaposed ends of the pipes to be coupled;

each of said coupling segments including:

radially inwardly extending and axially spaced first and second keys, said first keys of the juxtaposed coupling segments being in circumferential alignment, and said second keys of the juxtaposed coupling segments being in circumferential alignment, each of said first and second keys adapted to cooperatively engage a peripheral groove about the outer circumference of one of the juxtaposed pipe ends, and

bolt receiving pads at the ends of each of said coupling segments for receiving bolts to securably maintain the individual coupling segments of each series about the juxtaposed pipe ends, with the tightening of said bolts bringing the bolt pads together to urge the individual coupling segments radially inwardly to produce a reduction in the internal circumference of the coupling and cause clamping engagement with the pipe exterior, with said keys being tightly retained within their respective pipe recesses when said bolts are in their fully tightened condition;

each one of said series of successively sized segmented pipe couplings having a different diameter, and intended to couple together correspondingly different diameter pipes;

a first one of said successively sized series of segmented pipe couplings having a first diameter, and a second one of said successively sized series of segmented pipe couplings having a second diameter, said second segmented pipe coupling being the next successively sized coupling within said series after said first segmented pipe coupling, with said second diameter being

slightly greater than said second diameter, the improvement comprising:

anti-mismatch means provided on the individual ones of said coupling segments for preventing the fully bolt tightened connection of a coupling segment of said first series to a coupling segment of said second series.

2. In a series of successively sized segmented pipe couplings according to claim 1, wherein said anti-mismatch means includes a first member on a first of said coupling segments in each of said series, and a second member on a second of said coupling segments of each of said series;

the first and second members of said first one of said series of segmented pipe couplings configured and located to nest as their coupling segments are bolt tightened, such that the ends of said coupling segments are brought together in close proximity to encircle a pipe of a diameter corresponding to said first diameter;

the first and second members of said second ones of said series of pipe couplings configured and located to nest as their coupling segments are bolt tightened, such that the ends of said coupling segments are brought together in close proximity to encircle a pipe of a diameter corresponding to said second diameter;

the orientation of said first and second members of said first one of said series of segmented pipe couplings differing from the orientation of said first and second members of said second one of said series such that said first and second members of their respective segmented pipe couplings provide an interference relationship opposing the bolted connection of an arcuate coupling segment of said first one of said series to an arcuate coupling segment of said second one of said series.

3. In a series of successively sized segmented pipe couplings according to claim 2, wherein said interference relationship provides a separation gap

between the bolt pads of juxtaposed coupling segments of said first and second ones of said series, preventing the bringing together of the bolt pads of juxtaposed coupling segments of said first and second series to their fully tightened condition.

4. In a series of successively sized segmented pipe couplings according to claim 3, wherein each of said series of coupling segments includes two identical substantially semicircular arcuate coupling segments, the first and second members of the coupling segments of said first one of said series being reverse located with respect to the first and second members of said second one of said series.

5. In a series of successively sized segmented pipe couplings according to claim 2, wherein said first member being a projection and said second member being a recess configured to receive said projection, the location of said projection and recess in said second one of said series being the reverse of said first one of said series, such that if two coupling segments of the same one of said first or second series are in juxtaposition a projection of each coupling segment will enter a recess of the other coupling segment to permit close engagement therebetween, and if a coupling segment of said first series is in juxtaposition to a coupling segment of said second series their projections will abut to prevent close engagement therebetween.

6. In a series of successively sized segmented pipe couplings according to claim 5, wherein said interference relationship provides a separation gap between the bolt pads of juxtaposed coupling segments of said first and second ones of said series, preventing the bringing together of the bolt pads of juxtaposed coupling segments of said first and second series to their fully tightened condition.

7. In a series of successively sized segmented pipe couplings according to claim 4, wherein said first member being a projection and said second member being a recess configured to receive said projection, the location of said projection and recess in said second one of said series being the reverse of said first one of said series, such that if two coupling segments of the same one of said first or second series are in juxtaposition a projection of each coupling segment will enter a recess of the other coupling segment to permit close engagement therebetween, and if a coupling segment of said first series is in juxtaposition to a coupling segment of said second series their projections will abut to prevent close engagement therebetween.

8. In a series of successively sized segmented pipe couplings according to claim 7, wherein said interference relationship provides a separation gap between the bolt pads of juxtaposed coupling segments of said first and second ones of said series, preventing the bringing together of the bolt pads of juxtaposed coupling segments of said first and second series to their fully tightened condition.

9. In a series of successively sized segmented pipe couplings according to claim 2, wherein said series of segmented pipe couplings further includes third and fourth segmented pipe couplings, with said first, second, third, and fourth segmented pipe couplings being in seriatim increasingly sized relationship;

the first and second members of said third one of said series corresponding to the first and second members of said first one of said series, and the first and second members of said fourth one of said series corresponding to the first and second members of the second one of said series.

10. In a series of successively sized segmented pipe couplings according to claim 9, wherein said interference relationship provides a separation gap

between the bolt pads of the juxtaposed coupling segments of the next seriatim successive ones of said series of segmented pipe couplings.

11. In a series of successively sized segmented pipe couplings according to claim 9, wherein each of said series of coupling segments includes two identical substantially semicircular arcuate coupling segments, the first and second members of the coupling segments of said first one of said series being reverse located with respect to the first and second members of said second one of said series.

12. In a series of successively sized segmented pipe couplings according to claim 1, wherein:

each of said arcuate coupling segments terminates at its ends with inclined end faces, and said anti-mismatch means provided by the angular direction of said inclined end faces;

the angular direction of the inclined end faces in said first one of said series of segmented pipe couplings differing from the angular direction in said second one of said series, such that the inclined end faces of juxtaposed individual arcuate coupling segments of said first one of said series will nest, the inclined end faces of juxtaposed individual arcuate coupling segments of said second one of said series will nest, and the end faces of a coupling segment of said first series juxtaposed to the end faces of a coupling segment of said second series will be in an interference non-nested relationship.

13. In a series of successively sized segmented pipe couplings according to claim 12, wherein said interference relationship provides a separation gap between the bolt pads of juxtaposed coupling segments of said first and second ones of said series, preventing the bringing together of the bolt pads of juxtaposed coupling segments of said first and second series to their fully tightened condition.

14. In a series of successively sized segmented pipe couplings according to claim 12, wherein each of said series of coupling segments includes two identical substantially semi-circular arcuate coupling segments, the inclined end faces of the coupling segments of said first one of said series being reverse directed with respect to the inclined end faces of said second one of said series.

15. In a series of successively sized segmented pipe couplings according to claim 12, wherein said series of segmented pipe couplings further includes third and fourth segmented pipe couplings, with said first, second, third, and fourth segmented pipe couplings being in seriatim increasingly sized relationship;

the direction of the angular end faces of said third one of said series corresponding to the direction of the angular end faces of said first one of said series, and the direction of the angular end faces of said fourth one of said series corresponding to the direction of the angular end faces of the second one of said series.

16. In a series of successively sized segmented pipe couplings according to claim 15, wherein said interference non-nested relationship provides a separation gap between the bolt pads of the juxtaposed coupling segments of the next seriatim successive ones of said series of segmented pipe couplings.

17. In a series of successively sized segmented pipe couplings, each coupling adapted to securably connect the similarly configured and sized pipe ends of juxtaposed pipes;

each one of said series of segmented pipe couplings comprising two arcuate coupling segments to be assembled in arcuate end-to-end relationship for encircling the juxtaposed ends of the pipes to be coupled;

each of said coupling segments including:

radially inwardly extending and axially spaced first and second keys, said first keys of the juxtaposed coupling segments being in circumferential alignment, and said second keys of the juxtaposed coupling segments being in circumferential alignment, each of said first and second keys adapted to cooperatively engage a peripheral groove about the outer circumference of one of the juxtaposed pipe ends, and

bolt receiving pads at the ends of each of said coupling segments for receiving bolts to securably maintain the individual coupling segments of each series about the juxtaposed pipe ends, with the tightening of said bolts bringing the bolt pads together to urge the individual coupling segments radially inwardly to produce a reduction in the internal circumference of the coupling and cause clamping engagement with the pipe exterior, with said keys being tightly retained within their respective pipe recesses when said bolts are in their fully tightened condition;

each one of said series of successively sized segmented pipe couplings having a different diameter, and intended to couple together correspondingly different diameter pipes;

a first one of said successively sized series of segmented pipe couplings having a first diameter, and a second one of said successively sized series of segmented pipe couplings having a second diameter, said second segmented pipe coupling being the next successively sized coupling within said series after said first segmented pipe coupling, with said second diameter being slightly greater than said second diameter, the improvement comprising:

anti-mismatch means provided on the individual ones of said coupling segments for preventing the fully bolt tightened connection of a coupling segment of said first series to a coupling segment of said second series;

said anti-mismatch means being a projection on a first of said coupling segments in each of said series, and a recess on a second of said

coupling segments of each of said series;

the projection and recess of said first one of said series of segmented pipe couplings configured and located to nest as their coupling segments are bolt tightened, such that the ends of said coupling segments are brought together in close proximity to encircle a pipe of a diameter corresponding to said first diameter;

the projection and recess of said second ones of said series of pipe couplings configured and located to nest as their coupling segments are bolt tightened, such that the ends of said coupling segments are brought together in close proximity to encircle a pipe of a diameter corresponding to said second diameter;

the orientation of said projection and recess of said first one of said series of segmented pipe couplings differing from the orientation of said projection and recess of said second one of said series such that said projections of their respective segmented pipe couplings abut and provide an interference relationship opposing the bolted connection of an arcuate coupling segment of said first one of said series to an arcuate coupling segment of said second one of said series.

18. In a series of successively sized segmented pipe couplings according to claim 17, wherein said interference relationship provides a separation gap between the bolt pads of juxtaposed coupling segments of said first and second ones of said series, preventing the bringing together of the bolt pads of juxtaposed coupling segments of said first and second series to their fully tightened condition.

19. In a series of successively sized segmented pipe couplings according to claim 17, wherein the location of said projection and recess in said second one of said series being the reverse of said first one of said series, such that if the two coupling segments of the same one of said first or second series are

in juxtaposition a projection of each coupling segment will enter a recess of the other coupling segment to permit close engagement therebetween, and if a coupling segment of said first series is in juxtaposition to a coupling segment of said second series their projections will abut to prevent close engagement therebetween.

20. In a series of successively sized segmented pipe couplings, each coupling adapted to securably connect similarly configured and sized pipes:

each one of said series of segmented pipe couplings comprising two arcuate coupling segments to be assembled in arcuate end-to-end relationship for encircling the portions of the pipes to be coupled;

each of said coupling segments including:

bolt receiving pads at the ends of each of said coupling segments for receiving bolts to securably maintain the individual coupling segments of each series about the juxtaposed pipe ends, with the tightening of said bolts bringing the bolt pads together to urge the individual coupling segments radially inwardly to produce a reduction in the internal circumference of the coupling and cause clamping engagement with the pipe exterior, when said bolts are in their fully tightened condition;

each one of said series of successively sized segmented pipe couplings having a different diameter, and intended to couple together correspondingly different diameter pipes;

a first one of said successively sized series of segmented pipe couplings having a first diameter, and a second one of said successively sized series of segmented pipe couplings having a second diameter, said second segmented pipe coupling being the next successively sized coupling within said series after said first segmented pipe coupling, with said second diameter being slightly greater than said second diameter, the improvement comprising:

anti-mismatch means provided on the individual ones of said coupling segments for preventing the fully bolt tightened connection of a coupling

segment of said first series to a coupling segment of said second series;

each of said arcuate coupling segments terminating at its ends with inclined end faces, and said anti-mismatch means provided by the angular direction of said inclined end faces;

the angular direction of the inclined end faces in said first one of said series of segmented pipe couplings differing from the angular direction in said second one of said series, such that the inclined end faces of juxtaposed individual arcuate coupling segments of said first one of said series will nest, the inclined end faces of juxtaposed individual arcuate coupling segments of said second one of said series will nest, and the end faces of a coupling segment of said first series juxtaposed to the end faces of a coupling segment of said second series will be in an interference non-nested relationship.

21. In a series of successively sized segmented pipe couplings according to claim 20, wherein said interference relationship provides a separation gap between the bolt pads of juxtaposed coupling segments of said first and second ones of said series, preventing the bringing together of the bolt pads of juxtaposed coupling segments of said first and second series to their fully tightened condition.

22. In a series of successively sized segmented pipe couplings according to claim 20, wherein the inclined end faces of the coupling segments of said first one of said series being reverse directed with respect to the inclined end faces of said second one of said series.

23. In a series of successively sized segmented pipe couplings, each coupling adapted to securably connect similarly configured and sized pipes:

each one of said series of segmented pipe couplings comprising at least two arcuate coupling segments to be assembled in arcuate end-to-end relationship for encircling the portions of the pipes to be coupled;

each of said coupling segments including:

a radially inwardly extending portion adapted to engage the outer circumference of one of the pipes being connected, and

bolt receiving pads at the ends of each of said coupling segments for receiving bolts to securably maintain the individual coupling segments of each series about the pipes being connected, with the tightening of said bolts bringing the bolt pads together to urge the individual coupling segments radially inwardly to produce a reduction in the internal circumference of the coupling and cause clamping engagement with the pipe exterior;

each one of said series of successively sized segmented pipe couplings having a different diameter, and intended to couple together correspondingly different diameter pipes;

a first one of said successively sized series of segmented pipe couplings having a first diameter, and a second one of said successively sized series of segmented pipe couplings having a second diameter, said second segmented pipe coupling being the next successively sized coupling within said series after said first segmented pipe coupling, with said second diameter being slightly greater than said second diameter, the improvement comprising:

anti-mismatch means provided on the individual ones of said coupling segments for preventing the fully bolt tightened connection of a coupling segment of said first series to a coupling segment of said second series.

24. In a series of successively sized segmented pipe couplings according to claim 23, wherein said anti-mismatch means includes a first member on a first of said coupling segments in each of said series, and a second member on a second of said coupling segments of each of said series;

the first and second members of said first one of said series of segmented pipe couplings configured and located to nest as their coupling segments are bolt tightened, such that the ends of said coupling segments are brought together in close proximity to encircle a pipe of a diameter corre-

sponding to said first diameter;

the first and second members of said second ones of said series of pipe couplings configured and located to nest as their coupling segments are bolt tightened, such that the ends of said coupling segments are brought together in close proximity to encircle a pipe of a diameter corresponding to said second diameter;

the orientation of said first and second members of said first one of said series of segmented pipe couplings differing from the orientation of said first and second members of said second one of said series such that said first and second members of their respective segmented pipe couplings provide an interference relationship opposing the bolted connection of an arcuate coupling segment of said first one of said series to an arcuate coupling segment of said second one of said series.

25. In a series of successively sized segmented pipe couplings according to claim 24, wherein said interference relationship provides a separation gap between the bolt pads of juxtaposed coupling segments of said first and second ones of said series, preventing the bringing together of the bolt pads of juxtaposed coupling segments of said first and second series to their fully tightened condition.

26. In a series of successively sized segmented pipe couplings according to claim 25, wherein each of said series of coupling segments includes two identical substantially semicircular arcuate coupling segments, the first and second members of the coupling segments of said first one of said series being reverse located with respect to the first and second members of said second one of said series.

27. In a series of successively sized segmented pipe couplings according to claim 24, wherein said first member being a projection and said second

member being a recess configured to receive said projection, the location of said projection and recess in said second one of said series being the reverse of said first one of said series, such that if two coupling segments of the same one of said first or second series are in juxtaposition a projection of each coupling segment will enter a recess of the other coupling segment to permit close engagement therebetween, and if a coupling segment of said first series is in juxtaposition to a coupling segment of said second series their projections will abut to prevent close engagement therebetween.

28. In a series of successively sized segmented pipe couplings according to claim 27, wherein said interference relationship provides a separation gap between the bolt pads of juxtaposed coupling segments of said first and second ones of said series, preventing the bringing together of the bolt pads of juxtaposed coupling segments of said first and second series to their fully tightened condition.

29. In a series of successively sized segmented pipe couplings according to claim 26, wherein said first member being a projection and said second member being a recess configured to receive said projection, the location of said projection and recess in said second one of said series being the reverse of said first one of said series, such that if two coupling segments of the same one of said first or second series are in juxtaposition a projection of each coupling segment will enter a recess of the other coupling segment to permit close engagement therebetween, and if a coupling segment of said first series is in juxtaposition to a coupling segment of said second series their projections will abut to prevent close engagement therebetween.

30. In a series of successively sized segmented pipe couplings according to claim 29, wherein said interference relationship provides a separation gap between the bolt pads of juxtaposed coupling segments of said first and second

ones of said series, preventing the bringing together of the bolt pads of juxtaposed coupling segments of said first and second series to their fully tightened condition.

31. In a series of successively sized segmented pipe couplings according to claim 24, wherein said series of segmented pipe couplings further includes third and fourth segmented pipe couplings, with said first, second, third, and fourth segmented pipe couplings being in seriatim increasingly sized relationship;

the first and second members of said third one of said series corresponding to the first and second members of said first one of said series, and the first and second members of said fourth one of said series corresponding to the first and second members of the second one of said series.

32. In a series of successively sized segmented pipe couplings according to claim 23, wherein:

each of said arcuate coupling segments terminates at its ends with inclined end faces, and said anti-mismatch means provided by the angular direction of said inclined end faces;

the angular direction of the inclined end faces in said first one of said series of segmented pipe couplings differing from the angular direction in said second one of said series, such that the inclined end faces of juxtaposed individual arcuate coupling segments of said first one of said series will nest, the inclined end faces of juxtaposed individual arcuate coupling segments of said second one of said series will nest, and the end faces of a coupling segment of said first series juxtaposed to the end faces of a coupling segment of said second series will be in an interference non-nested relationship.

33. In a series of successively sized segmented pipe couplings according to claim 32, wherein said interference relationship provides a separation gap

between the bolt pads of juxtaposed coupling segments of said first and second ones of said series, preventing the bringing together of the bolt pads of juxtaposed coupling segments of said first and second series to their fully tightened condition.

34. In a series of successively sized segmented pipe couplings, each coupling adapted to securably connect similarly configured and sized pipes:

each one of said series of segmented pipe couplings comprising two arcuate coupling segments to be assembled in arcuate end-to-end relationship for encircling the portions of the pipes to be coupled;

each of said coupling segments including:

a radially inwardly extending portion adapted to engage the outer circumference of one of the pipes being connected, and

bolt receiving pads at the ends of each of said coupling segments for receiving bolts to securably maintain the individual coupling segments of each series about the juxtaposed pipe ends, with the tightening of said bolts bringing the bolt pads together to urge the individual coupling segments radially inwardly to produce a reduction in the internal circumference of the coupling and cause clamping engagement with the pipe exterior;

each one of said series of successively sized segmented pipe couplings having a different diameter, and intended to couple together correspondingly different diameter pipes;

a first one of said successively sized series of segmented pipe couplings having a first diameter, and a second one of said successively sized series of segmented pipe couplings having a second diameter, said second segmented pipe coupling being the next successively sized coupling within said series after said first segmented pipe coupling, with said second diameter being slightly greater than said second diameter, the improvement comprising:

anti-mismatch means provided on the individual ones of said coupling segments for preventing the fully bolt tightened connection of a

coupling segment of said first series to a coupling segment of said second series;

said anti-mismatch means being a projection on a first of said coupling segments in each of said series, and a recess on a second of said coupling segments of each of said series;

the projection and recess of said first one of said series of segmented pipe couplings configured and located to nest as their coupling segments are bolt tightened, such that the ends of said coupling segments are brought together in close proximity to encircle a pipe of a diameter corresponding to said first diameter;

the projection and recess of said second ones of said series of pipe couplings configured and located to nest as their coupling segments are bolt tightened, such that the ends of said coupling segments are brought together in close proximity to encircle a pipe of a diameter corresponding to said second diameter;

the orientation of said projection and recess of said first one of said series of segmented pipe couplings differing from the orientation of said projection and recess of said second one of said series such that said projections of their respective segmented pipe couplings abut and provide an interference relationship opposing the bolted connection of an arcuate coupling segment of said first one of said series to an arcuate coupling segment of said second one of said series.

35. In a series of successively sized segmented pipe couplings according to claim 34, wherein the location of said projection and recess in said second one of said series being the reverse of said first one of said series, such that if the two coupling segments of the same one of said first or second series are in juxtaposition a projection of each coupling segment will enter a recess of the other coupling segment to permit close engagement therebetween, and if a coupling segment of said first series is in juxtaposition to a coupling segment

of said second series their projections will abut to prevent close engagement therebetween.